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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,584	08/28/2003	Diane Buske Ellis	02-270	7428
62753	7590	09/19/2008	EXAMINER	
VALERIE CALLOWAY CHIEF INTELLECTUAL PROPERTY COUNSEL POLYMER GROUP, INC. 9335 HARRIS CORNERS PARKWAY SUITE 300 CHARLOTTE, NC 28269			COLE, ELIZABETH M	
			ART UNIT	PAPER NUMBER
			1794	
			MAIL DATE	DELIVERY MODE
			09/19/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/650,584

**Applicant(s)**

ELLIS, DIANE BUSKE

**Examiner**

Elizabeth M. Cole

**Art Unit**

1794

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 7, 10, 12 and 14-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 7, 10, 12, 14-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 7, 10, 12, 14-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oathout, U.S. Patent No. 5,459,912 in view of Palm, U.S. Patent No. 5,776,353 and further in view of Kwok et al, U.S. Patent No. 5,093,190. . Oathout discloses a clean room wipe made by a process of providing a first layer of polymeric staple fibers, a second layer of natural fibers and hydroentangling to form a composite fabric. The polymeric fibers can be thermoplastic fibers such as polyester, polypropylene or polyamide. See abstract and col. 2, line 50- col. 3, line 29. The natural fibers can be wood pulp or other plant fibers. See col. 4, lines 41-57. Since Oathout discloses the same fabric structure comprising the same types of fibers which are joined by hydroentangling, the fabric of Oathout would be drapable and conformable. Oathout differs from the claimed invention because Oathout does not disclose that the wipe should have a sodium ion content of less than 45 ppm and that it should be subjected to a process of washing with acetic acid, rinsing with water and drying. Palm discloses a method of removing contaminants from a fibrous material comprising the steps of washing with acetic acid, rinsing and drying. Palm teaches that this process removes soluble contaminants from the material. See col. 13, lines 53-64. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have subjected the clean room wipe of Oathout to the method of removing

contaminants taught by Palm with the expectation that this washing, rinsing and drying process would remove soluble contaminants from the wipe of Oathout. It is noted that it is known in the art of clean room wipes that it is desirable to remove contaminants from the wipe. Once the cleaning process of Palm had been performed on the wipe of Oathout, the wipe of Oathout presumably would have the claimed sodium ion content, since Oathout teaches the claimed material and Palm teaches the claimed process. With regard to the particular apparatus employed to dewater the fabric, the person of ordinary skill in the art would have been able to select known means of dewater the fabric. Once the process of Palm was applied to the nonwoven material of Oathout, the resulting fabric would necessarily have the sodium ion content claimed, since Oathout teaches the same fabric and Palm teaches the same acid washing steps. Oathout and Palm do not teach employing a vacuum during the washing process. Kwok teaches that employing a vacuum to dewater a nonwoven web for use as a clean room wipe reduces the amount of contaminants in the web. Therefore, it would have been obvious to have employed a vacuum in the acid washing process of Palm, with the expectation that this would increase the amount of contaminants removed.

3. Claims 1, 7, 10,12, 14-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oathout, U.S. Patent No. 5,459,912 in view of Bahten, U.S. Patent NO. 6,182,323 and further in view of Palm et al, U.S. Patent No. 5,776,353 and Kwok et al, U.S. Patent No. 5,093,190. Oathout discloses a clean room wipe made by a process of providing a first layer of polymeric staple fibers, a second layer of natural fibers and hydroentangling to form a composite fabric. The polymeric fibers can be thermoplastic

fibers such as polyester, polypropylene or polyamide. See abstract and col. 2, line 50- col. 3, line 29. The natural fibers can be wood pulp or other plant fibers. See col. 4, lines 41-57. Since Oathout discloses the same fabric structure comprising the same types of fibers which are joined by hydroentangling, the fabric of Oathout would be drapable and conformable. Oathout differs from the claimed invention because Oathout does not disclose that the wipe should have a sodium ion content of less than 45 ppm and that it should be subjected to a process of washing with acetic acid, rinsing with water and drying. . Bahten teaches that materials intended for use as clean room wipes or brushes, (col. 3, lines 10-27), can advantageously be subjected to acid washing, rinsing and drying, (col. 9, lines 3-20; col. 10, line 60 – col. 11, line 27; col. 12, lines 14-30), in order to remove impurities. Bahten teaches that materials which are thus treated can have a sodium ion content of less than 10 ppm. See Table 1B. Therefore, it would have been obvious to one of ordinary skill in the art to have subjected the clean room wipe of Oathout to the acid washing, rinsing and drying steps of Bahten, motivated by the expectation that these additional process steps would remove additional impurities from the clean room wipe of Oathout and arrive at a wipe having a sodium ion content of less than 10 ppm. With regard to the limitation that the process steps of washing with acetic acid, rinsing and drying are done in sequence and without intervening steps, although Bahten does show intervening steps in the process set forth at col. 9, lines 1-20, Bahten also teaches at col. 12, lines 33-45, that the particular process and steps set forth at col. 9 are exemplary and that the steps can be changed in sequence and that steps can be removed. Further, as evidenced by Palm, it

was known in the art to perform acid washing, rinsing and drying alone as a method for removing contaminants from articles. See col. 13, lines 53-64. Therefore, it would have been obvious to have employed acid washing, rinsing and drying alone as a process for removing contaminants from the wipe of Oathout, in view of the teaching of Bahten and Palm. Neither Oathout nor Bahten teach employing acetic acid as the acid wash. Palm et al teaches at col. 13, that acetic acid was recognized in the art as equivalent to citric acid, ( which is taught by Bahten) for the purpose of washing materials in order to remove residual impurities. See col. 13, lines 53-64. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed acetic acid in the process taught by Bahten, motivated by the teaching of Palm et al that acetic acid was an art recognized equivalent for this purpose. Oathout, Bahten and Palm do not teach employing a vacuum during the washing process. Kwok teaches that employing a vacuum to dewater a nonwoven web for use as a clean room wipe reduces the amount of contaminants in the web. Therefore, it would have been obvious to have employed a vacuum in the acid washing processes of Palm and Bahten, with the expectation that this would increase the amount of contaminants removed.

4. Applicant's arguments filed 7/9/08 have been fully considered but they are not persuasive.
5. Applicant argues that Palm does not refer to fabrics but instead refers to removing contaminants from particles. However, the abstract of Palm equates particles and fibers. Further, Palm refers to fiberglass which is by definition fibrous. Palm

teaches a method of removing contaminants from a fibrous material. Oathout already teaches a nonwoven fabric for use in clean rooms and as noted in the previous action, the problem of removing contaminants from clean room materials was known in the art. For example, Bahten teaches the use of acid washing processes to remove contaminants from clean room materials. Palm teaches specifically using acetic acid washes to remove contaminants from materials. Additionally, Applicant's statement of the background of the invention states that "it is known that surfactants comprising high sodium concentrations may be problematic for wipes utilized in the electronic industry. For wiping applications in the electronics industry it is often desirable for the wipe to have a low sodium ion particle count". See page 2, lines 1-5 of the Background of the invention section. Therefore, the teachings of Palm regarding how to remove contaminants from a fibrous material would have been recognized as pertinent to the clean room fibrous material of Oathout.

6. Applicant is arguing that the fiberglass is blended as a particle with other particles. However, fiberglass is made of fibers made of glass. It can be blended with particles, but fiberglass is still glass fibers. Further, fibrous materials can be sintered to bond them without becoming particles. Additionally, although Applicant argues that fiberglass nonwovens cannot be blended with particles, it is noted that such structures are common and conventionally used throughout a variety of technology areas. Please see US Class 442 subclass 417 for examples of nonwoven fabrics which further comprise particles other than strands or fiber materials. Further, since Palm teaches sintering the structure to form a mass, this would form a nonwoven fabric, (i.e., an

autogenously bonded nonwoven fabric, see class 442 subclass 409, 410). Further, even if it is assumed that the fiberglass is not bonded per se, Palm is still teaching a method of removing contaminants from fibrous materials and as such relevant to the clean room wipe of Oathout. Finally, Applicant is arguing that the fiberglass of Oathout is not a fiberglass insulation blanket. However, the examiner did not suggest that it was an insulation blanket. Further, there are numerous ways of forming a nonwoven fabric, besides the method of bonding with a thermoset polymer as set forth in Applicant's footnote at page 8. Such structures can be stitch bonded, needled, hydroentangled, bonded with fibrous thermoplastic binder, sintered, etc.

7. Applicant argues that Palm does not suggest performing the acid washing step to reduce the levels of sodium ion on the filtration material. However, "The fact that appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious." *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

8. Applicant argues that there would be no motivation, suggestion or technical rationale to combine the teachings of Oathout and Palm. However, as noted above, the instant specification in the background of the art section states that it was known to be desirable for a wipe to have a low sodium ion particle count. This statement is found in the background of the art statement as to what was already known in the art. Further, it was known in the art that clean room wipes should be free of contaminants. Palm



teaches a method of removing contaminants from fibrous materials and therefore the teachings of Pal are pertinent to the wipe of Oathout.

9. Applicant argues that Bahten has nothing to do with nonwoven fabrics. However, Bahten has everything to do with clean room materials, as does Oathout. , Bahten teaches wipes for use in a clean room and teaches acid washing them in order to remove contaminants. Therefore, the teachings of Bahten are pertinent to the invention of Oathout. This is true whether or not the wipes are in foam of fibrous form. Bahten recognizes the problem of contaminants in clean room wipes and teaches a method by which they can be removed. Further, while Applicant argues that the person of ordinary skill in the art would recognize that Bahten only means foam sponges when it refers to wipes, it is noted that it is well known and conventional in the art to form wipes from fibrous materials, not just foams. Either way, however, as noted above, Bahten clearly teaches a method of removing contaminants from clean room materials by means of acid washing.

10. Applicant argues that the office action cites no factual evidence that wipes in fibrous form are equivalents to foam wipes. The office action did not state that they were equivalents, but that Bahten teaches "wipes" and that it is well known to form "wipes" from nonwoven fabrics. This is shown by Oathout.

11. Applicant argues that the person making the fabric of Oathout would not have looked to the teachings of Palm or Oathout for possible modifications to the process described in Oathout to make the fabrics. However, since both Palm and Bahten teach

methods of removing contaminants from structures their teachings would have been relevant to the person of ordinary skill making a clean room wipe as taught by Oathout.

12. Applicant argues that Palm and Bahten do not teach the claimed fabric.

However, Oathout already teaches the claimed fabric.

13. Applicant argues that Oathout, Palm and Bahten do not teach employing a vacuum during the acid washing process. However, Kwok teaches this limitation.

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

/Elizabeth M. Cole/  
Primary Examiner, Art Unit 1794

e.m.c